

WHAT IS CLAIMED IS:

1. A rotary non-contact connector comprising:

a rotary transformer composed of a rotor that has a rotor-side transformer winding and an annular stator that is concentric with the rotor and has a stator-side transformer winding;

a rotating-side radio transceiver provided on the rotor; and

a stationary-side radio transceiver that is fixedly disposed to oppose the rotating-side radio transceiver,

wherein electric power is supplied to the rotor through the intermediary of the rotary transformer to perform radio communication.

2. A rotary non-contact connector according to Claim 1, wherein a non-magnetic and non-magnetized bearing is provided between the rotor and the annular stator.

3. A rotary non-contact connector according to Claim 1, further comprising an electric circuit that is provided on the rotor and adapted for driving the rotating-side radio transceiver,

wherein electric power is supplied to the electric circuit through the intermediary of the rotary transformer.

4. A rotary non-contact connector according to Claim 1, wherein a power output terminal of the rotary transformer is divided into two terminals, one terminal being directly coupled to the electric circuit, while the other terminal being coupled to the electric circuit through the intermediary of storage means composed of a capacitor or a storage cell.

5. A rotary non-contact connector according to Claim 1, wherein one or a plurality of the rotating-side radio transmitters-receivers are provided directly on the rotor or a mounting plate connected to a part of the rotor.

6. A rotary non-contact connector according to Claim 1, wherein the rotating-side radio transceiver or the stationary-side radio transceiver has at least an antenna.

7. A non-rotary non-contact connector comprising:  
a first stationary member having a first transformer winding;  
a second stationary member that is disposed to oppose the first stationary member and has a second transformer winding;  
a first radio transceiver provided on the first

stationary member; and

a second radio transceiver provided on the second stationary member,

wherein electric power is supplied to the first stationary member or the second stationary member on a power-supplied side by means of magnetic coupling between the transformer windings to perform radio communication between the radio transmitters-receivers.

8. A non-rotary non-contact connector according to Claim 7, further comprising an electric circuit for driving the first radio transceiver or the second radio transceiver in the first stationary member or the second stationary member on the power-supplied side,

wherein electric power is supplied to the electric circuit through the first transformer winding or the second transformer winding on the power-supplied side.

9. A non-rotary non-contact connector according to Claim 7, wherein a power output terminal of the first transformer winding or the second transformer winding on the power-supplied side is divided into two terminals, one terminal being directly coupled to the electric circuit, while the other terminal being coupled to the electric circuit through the intermediary of storage means composed

of a capacitor or a storage cell.

10. A non-rotary non-contact connector according to Claim 7, wherein one or a plurality of the first radio transmitters-receivers or the second radio transmitters-receivers are provided directly on the first stationary member or the second stationary member on the power-supplied side, or on a structural member connected to a part thereof.

11. A non-rotary non-contact connector according to Claim 7, wherein the first radio transceiver or the second radio transceiver has at least an antenna.